Revised guidelines for screening patients with suspected H5N1

Influenza A H5N1 is causing widespread outbreaks among wild and domestic birds in Africa, Asia and Europe. As of June 2006, the World Health Organization (WHO) reports more than 200 human H5N1 infections with a 50% mortality rate. Person-to-person transmission of H5N1 is rare, inefficient and not sustained. Virtually all human infections result from contact with infected domestic birds. H5N1 infection may occur among travelers from affected areas and should be suspected among those with serious respiratory infections.

To rapidly detect and control imported H5N1, we are asking healthcare providers to notify their local health department immediately regarding:

1. **Patients with severe, febrile (documented fever ≥100.4℉ [38℃]) respiratory disease, including pneumonia or acute respiratory distress syndrome (ARDS), for which no alternative cause is established AND**
    - **Worked with live H5N1 virus within 10 days of onset OR**
    - **Traveled to areas reporting avian or human H5N1 within 10 days of onset AND**
        - **Touched sick or dead poultry OR**
        - **Touched surfaces contaminated with their excretions OR**
        - **Consumed raw or incompletely cooked poultry OR**
        - **Touched sick or dead wild birds suspected to have H5N1 OR**
        - **Had close contact with a person confirmed or suspected to have H5N1 or who was hospitalized with and/or died of a severe, unexplained respiratory illness**
2. **For patients with milder febrile illness and respiratory symptoms (cough, sore throat or shortness of breath) and the above risk factors, testing will be considered on a case-by-case basis.**

Infection control for patients with suspected or confirmed H5N1 should include standard and droplet precautions. Airborne precautions should be used for procedures that may aerosolize respiratory secretions.

We encourage providers to obtain travel histories from patients with severe respiratory illness. Multiple countries in African, Asian and European have reported human and/or avian H5N1. Updated information on H5N1 activity is available on the WHO and Centers for Disease Control and Prevention (CDC) websites:

WHO: http://www.who.int/csr/disease/avian_influenza/en/
CDC: http://www.cdc.gov/flu/avian/index.htm

Contact information for local health departments: **http://www.doh.wa.gov/LHJMap/LHJMap.htm**.
For additional information or questions, please contact DOH Communicable Disease Epidemiology Section 24/7 at 206.418.5500 or 1.877.539.4344

Laboratory diagnosis of suspected H5N1 influenza

- Your local health department will facilitate diagnostic testing at the Washington State Department of Health Public Health Laboratories (PHL), so please contact that agency for instructions on sending specimens (see website for local contact information: http://www.doh.wa.gov/LHJMap/LHJMap.htm)
- The PHL performs H antigen subtyping of influenza by polymerase chain reaction (PCR) assay and can identify the strain of highly pathogenic H5N1 currently causing avian influenza in Africa, Asia and Europe.
- H5N1 has pandemic potential; specimens identified as influenza A H5 or another novel subtype will go to CDC for further identification and viral isolation under enhanced biosafety level 3 conditions.
- To maximize the detection of influenza, collect respiratory specimens within three days of symptom onset. Oropharynx and lower respiratory tract specimens have the highest yield for H5N1, however aerosolization of virus can occur during procedures to obtain lower respiratory tract specimens.
- Collect at least one of the following specimens for viral isolation and PCR:
  1. Oropharyngeal (OP) swab is the easiest method and has the highest yield
  2. Bronchoalveolar lavage (BAL) for patients who require BAL for diagnosis
  3. Tracheal aspirate for patients on mechanical ventilation if an OP swab cannot be obtained
  4. Nasopharyngeal swab or aspirate are the least desirable specimens
- Serum antibody testing can be useful if respiratory specimens cannot be obtained; collect an acute specimen within seven days of onset and a convalescent specimen 2-4 weeks following the acute specimen.
- The results of rapid influenza testing kits should be interpreted with caution; the sensitivity of these kits are low, while a reactive test will not distinguish seasonal from avian or other novel -influenza strains.

Please do not submit specimens to a commercial laboratory, which can delay confirmation of H5N1 infection.

Detailed instructions for collecting and transporting specimens are attached

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Influenza A H5N1

Revised Guidelines for Collection and Transport of Specimens for Influenza H5N1 Testing at the Public Health Laboratories

Always perform diagnostic procedures using appropriate infection control precautions

PHL will not accept specimens without notification and approval of your local health department

Oropharyngeal swab specimen collection*

1. Use only sterile Dacron or rayon swabs with wire or plastic shafts. Swab posterior oropharynx and tonsillar area, avoiding the tongue.
2. Place swab immediately into a sterile vial containing 2 mL of viral transport media. Break off or bend applicator shaft to close vial tightly.
3. Label vial with patient's name, specimen source and date obtained.

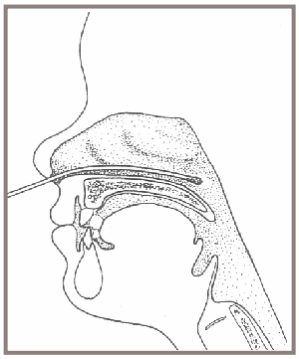
Bronchoalveolar lavage or tracheal aspirate specimen collection*

1. During lavage or aspirate, use a double-tube system.
2. Centrifuge half of the specimen, and fix cell pellet in formalin. Place remaining unspun fluid in sterile vials with external caps and internal O-ring seal, then seal tightly with the available cap and secure with adhesive tape.
3. Label each specimen with patient's name, specimen source and date obtained.

Oropharyngeal or lower respiratory specimens are preferred; collect nasopharyngeal specimens only when OP, BAL or tracheal aspirate specimens cannot be obtained

Nasopharyngeal (NP) swab specimen collection*

1. Use only sterile Dacron or rayon swabs with wire shafts. Insert swab into one nostril parallel to the palate until resistance is met by contact with the nasopharynx. Leave swab in for a few seconds. If possible, collect from other nostril with the same swab.
2. Place swab immediately into sterile vials containing 2 mL of viral transport media. Break off or bend applicator shaft to close vial tightly.
3. Label vial with the patient's name, specimen source and date obtained.



Nasopharyngeal (NP) aspirate specimen collection*

1. Place patient with head tilted slightly backward.
2. Instill 1-1.5 mL of nonbacteriostatic saline into one nostril.
3. Flush a plastic catheter with 2-3 mL of nonbacteriostatic saline.
4. Insert catheter into nostril parallel to the palate until resistance is met by contact with the nasopharynx. Aspirate the NP contents. If possible, repeat with the other nostril.
5. Instill the aspirate into sterile vials and label vials with the patient's name, specimen source and date obtained.

**Multiple specimens can be combined in a single viral medium transport tube.*

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Blood specimen collection

1. Antibody testing requires both acute (<7 days of onset) and convalescent (2-4 weeks after onset) serum specimens.
2. Collect 5-10 cc of whole blood in a serum separator tube. Allow blood to clot, centrifuge briefly, and collect all sera in vials with external caps and internal O-ring seals. If no O-ring vials are available, seal existing cap with adhesive tape.
3. The minimum amount of serum needed for testing is 200 µl.
4. For pediatric patients, a minimum of 1 cc of whole blood is needed. Ideally, collect 1 cc in a serum separator and 1 cc in an EDTA tube. If only 1 cc can be collected, collect in a serum separator.
5. Label each specimen with patient's name and date obtained.

Storage: All respiratory and blood specimens should be refrigerated immediately after collection at 4℃ until ready for transport. Transport on ice packs. Respiratory specimens held for more than 36 hours should be frozen to -70℃ and shipped on dry ice.

Each specimen must be accompanied by a completed PHL **Viral Examination Form** which includes:

Patient name
Specimen collection date
Date of symptom onset
Source of specimen
Test requested
Submitter name, mailing address

Packaging: Pack and label specimens as Diagnostic or Clinical Specimens. Pack and label viral isolates as Infectious Substances, UN 2814. Pack and ship according to United States Department of Transportation and United States Postal Service regulations. Specimens that leak in transit or do not have appropriate patient identification on the vial/tube will be rejected. Specimens without collection date, submitter name and address or requested test will be delayed for reporting until the missing information is received.

Transport: Every attempt should be made to transport specimens to the PHL on ice packs within 24 hours of collection**.**

Contact information for local health departments can be found at the following website: **http://www.doh.wa.gov/LHJMap/LHJMap.htm**

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